

WHAT IS CLAIMED IS:

1. A method of processing an image, comprising:  
receiving a definition of at least one region in an image, the region definition having a location specification and a type specification;  
displaying the boundaries of the at least one defined region according to its type specification;  
receiving a definition of a visible area in the image, the visible area definition having a specification of margins around the image; and  
generating an image layout definition comprising the region definition and the visible area definition.
2. The method, as set forth in claim 1, further comprising displaying the image on a display.
3. The method, as set forth in claim 1, wherein receiving a definition of at least one region in an image further comprises receiving a modality specification.
4. The method, as set forth in claim 1, wherein receiving a definition of at least one region in the image comprises automatically determining the definition of the at least one region in the image by segmentation analysis of the image.
5. The method, as set forth in claim 1, wherein receiving a definition of at least one region in the image comprises automatically determining the definition of the at least one region in the image by classification analysis of the image.
6. The method, as set forth in claim 1, wherein receiving a definition of at least one region in the image comprises:  
receiving a user input indicative of a point on the image; and  
defining a region encompassing the point using segmentation and classification analyses of the image.

7. The method, as set forth in claim 1, wherein receiving a definition of at least one region in the image comprises:

receiving a user input indicative of boundaries of the region on the image; and  
receiving a user input indicative of region type and region modality specifications.

8. The method, as set forth in claim 1, wherein receiving a definition of at least one region in the image comprises:

receiving a user input indicative of vertices of the region on the image; and  
receiving a user input indicative of region type and region modality specifications.

9. The method, as set forth in claim 1, wherein receiving a definition of at least one region in the image comprises:

receiving a user input indicative of vertices of a polygonal region on the image; and  
receiving a user input indicative of region type and region modality specifications of the polygonal region.

10. The method, as set forth in claim 1, wherein receiving a definition of at least one region in the image comprises:

receiving a user input indicative of a first vertex and a location of a second vertex opposite the first vertex of a rectangular region on the image; and  
receiving a user input indicative of region type and region modality specifications of the rectangular region.

11. The method, as set forth in claim 1, wherein receiving a definition of a visible area in the image comprises receiving a user input indicative of a first vertex and a location of a second vertex opposite the first vertex of the visible area on the image.

12. The method, as set forth in claim 2, wherein displaying the image on a display comprises:

- receiving a user specification of a file size of the image;
- determining a bit depth of the image;
- determining dimensions of the image;
- determining a display resolution in response to the file size, bit depth, and image dimensions; and
- displaying the image on a display according to the determined display resolution.

13. The method, as set forth in claim 1, further comprising:

- receiving a user specification of a file size of the image;
- determining a bit depth of the image;
- determining dimensions of the image;
- determining a display resolution in response to the file size, bit depth, and image dimensions; and

- transmitting the image having a resolution according to the determined display resolution.

14. The method, as set forth in claim 1, wherein displaying the image on a display comprises:

- determining a display resolution setting of a display screen;
- determining amount of display screen space available to display the image;
- determining dimensions of the image;
- determining a resolution for simultaneously displaying the entire image on the display screen in response to the display resolution setting, the amount of display screen space available, and the dimensions of the image; and
- displaying the image on the display screen in response to the determined resolution.

15. The method, as set forth in claim 1, wherein receiving definition of at least one region comprises receiving a user specification of a location and boundaries of a region in the image.

16. The method, as set forth in claim 15, wherein receiving definition of at least one region comprises verifying the user-specified region location and boundaries conform to at least one region management model.

17. The method, as set forth in claim 15, wherein receiving definition of at least one region comprises receiving user specification of region type and region modality.

18. The method, as set forth in claim 16, wherein verifying the user-specified region location and boundaries conform to at least one region management model comprises determining whether the user-specified region boundaries overlap with another region.

19. The method, as set forth in claim 16, wherein verifying the user-specified region location and boundaries conform to at least one region management model comprises determining whether the user-specified region boundaries cross one another.

20. The method, as set forth in claim 16, wherein verifying the user-specified region location and boundaries conform to at least one region management model comprises determining whether the user-specified region boundaries fall within the visible area.

21. The method, as set forth in claim 16, wherein verifying the user-specified region location and boundaries conform to at least one region management model comprises determining whether the user-specified region comply with a predetermined multiple z-order specification.

22. A method of processing an image, comprising:  
determining a definition of at least one region in the image, the region definition having a location specification and a type specification;  
generating an image layout definition comprising the region definition;  
searching for an image layout definition template that best matches the generated image layout definition; and  
conforming the generated image layout definition to the best-matched image layout definition template.

23. The method, as set forth in claim 22, further comprising displaying the image on a display.

24. The method, as set forth in claim 22, further comprising displaying the boundaries of the at least one defined region according to its type specification.

25. The method, as set forth in claim 22, wherein determining a definition of at least one region in the image comprises a modality specification.

26. The method, as set forth in claim 22, wherein determining a definition of at least one region in the image comprises automatically determining the definition of the at least one region in the image by segmentation and classification analyses of the image.

27. The method, as set forth in claim 22, wherein determining a definition of at least one region in the image comprises:

receiving a user input indicative of a point on the image; and  
defining a region encompassing the point using segmentation and classification analyses of the image.

28. The method, as set forth in claim 22, wherein determining a definition of at least one region in the image comprises:

receiving a user input indicative of boundaries of the region on the image; and  
receiving a user input indicative of region type and region modality specifications.

29. The method, as set forth in claim 22, wherein determining a definition of at least one region in the image comprises:

receiving a user input indicative of vertices of the region on the image; and  
receiving a user input indicative of region type and region modality specifications.

30. The method, as set forth in claim 22, wherein determining a definition of at least one region in the image comprises:

- receiving a user input indicative of vertices of a polygonal region on the image; and
- receiving a user input indicative of region type and region modality specifications of the polygonal region.

31. The method, as set forth in claim 22, wherein determining a definition of at least one region in the image comprises:

- receiving a user input indicative of a first vertex and a location of a second vertex opposite the first vertex of a rectangular region on the image; and
- receiving a user input indicative of region type and region modality specifications of the rectangular region.

32. The method, as set forth in claim 22, wherein determining a definition of a visible area in the image comprises receiving a user input indicative of a first vertex and a location of a second vertex opposite the first vertex of the visible area on the image.

33. The method, as set forth in claim 23, wherein displaying the image on a display comprises:

- receiving a user specification of a file size of the image;
- determining a bit depth of the image;
- determining dimensions of the image;
- determining a display resolution in response to the file size, bit depth, and image dimensions; and
- displaying the image on a display according to the display resolution.

34. The method, as set forth in claim 22, further comprising:  
receiving a user specification of a file size of the image;  
determining a bit depth of the image;  
determining dimensions of the image;  
determining a display resolution in response to the file size, bit depth, and image dimensions; and  
transmitting the image having a resolution according to the determined display resolution.

35. The method, as set forth in claim 23, wherein displaying the image on a display comprises:  
determining a display resolution setting of a display screen;  
determining amount of display screen space available to display the image;  
determining dimensions of the image;  
determining a resolution for simultaneously displaying the entire image on the display screen in response to the display resolution setting, the amount of display screen space available, and the dimensions of the image; and  
displaying the image on the display screen in response to the determined resolution.

36. The method, as set forth in claim 22, wherein determining definition of at least one region comprises receiving a user specification of a location and boundaries of a region in the image.

37. The method, as set forth in claim 36, wherein determining definition of at least one region comprises verifying the user-specified region location and boundaries conform to at least one region management model.

38. The method, as set forth in claim 36, wherein determining definition of at least one region comprises receiving user specification of region type and region modality.

39. The method, as set forth in claim 33, wherein verifying the user-specified region location and boundaries conform to at least one region management model comprises determining whether the user-specified region boundaries overlap with another region.

40. The method, as set forth in claim 37, wherein verifying the user-specified region location and boundaries conform to at least one region management model comprises determining whether the user-specified region boundaries cross one another.

41. The method, as set forth in claim 37, wherein verifying the user-specified region location and boundaries conform to at least one region management model comprises determining whether the user-specified region boundaries fall within the visible area.

42. The method, as set forth in claim 37, wherein verifying the user-specified region location and boundaries conform to at least one region management model comprises determining whether the user-specified region comply with a predetermined multiple z-order specification.

43. The method, as set forth in claim 22, wherein conforming the generated image layout definition to the best-matched image layout definition template comprises adjusting the location specification of the at least one region of the image layout definition.

44. The method, as set forth in claim 22, wherein conforming the generated image layout definition to the best-matched image layout definition template comprises adjusting the type specification of the at least one region of the image layout definition.

45. The method, as set forth in claim 22, wherein conforming the generated image layout definition to the best-matched image layout definition template comprises adjusting the modality specification of the at least one region of the image layout definition.



46. The method, as set forth in claim 22, further comprising:  
receiving a definition of a visible area in the image, the visible area definition having a specification of margins around the image; and  
generating an image layout definition comprising the region definition and the visible area definition.

47. The method, as set forth in claim 22, wherein conforming the generated image layout definition to the best-matched image layout definition template comprises adjusting the visible area definition of the image layout definition.

48. A system for processing an image, comprising:  
a graphical user interface operable to display the image, and receive a definition of at least one region in the image, the region definition having a location specification and a type specification, the graphical user interface further operable to display the boundaries of the at least one defined region according to its type specification; and  
a processor generating an image layout definition comprising the region definition.

49. The system, as set forth in claim 48, wherein the graphical user interface is operable to display a visible area according to a definition of a visible area in the image having a specification of margins around the image, and the processor generates an image layout definition comprising the visible area definition.

50. The system, as set forth in claim 48, wherein the processor is operable to automatically determine the definition of the at least one region in the image by segmentation analysis of the image.

51. The system, as set forth in claim 48, wherein the processor is operable to automatically determine the definition of the at least one region in the image by classification analysis of the image.

52. The system, as set forth in claim 48, wherein the graphical user interface is operable to receive a user input indicative of a point on the image, and define a region encompassing the point using segmentation and classification analyses of the image.

53. The system, as set forth in claim 48, wherein the graphical user interface is operable to receive a user input indicative of boundaries of the region on the image, and receive a user input indicative of region type and region modality specifications.

54. The system, as set forth in claim 48, wherein the graphical user interface is operable to receive a user input indicative of vertices of the region on the image, and receive a user input indicative of region type and region modality specifications.

55. The system, as set forth in claim 48, wherein the graphical user interface is operable to receive a user input indicative of vertices of a polygonal region on the image, and receive a user input indicative of region type and region modality specifications of the polygonal region.

56. The system, as set forth in claim 48, wherein the graphical user interface is operable to receive a user input indicative of a first vertex and a location of a second vertex opposite the first vertex of a rectangular region on the image, and receive a user input indicative of region type and region modality specifications of the rectangular region.

57. The system, as set forth in claim 48, wherein the graphical user interface is operable to receive a user input indicative of a first vertex and a location of a second vertex opposite the first vertex of the visible area on the image.

58. The system, as set forth in claim 48, wherein the graphical user interface is operable to receive a user specification of a file size of the image, determine a bit depth of the image, determine dimensions of the image, determine a display resolution in response to the file size, bit depth, and image dimensions, and display the image on a display according to the display resolution.

59. The system, as set forth in claim 48, wherein the processor is operable to receive a user specification of a file size of the image, determine a bit depth of the image, determine dimensions of the image, determine a display resolution in response to the file size, bit depth, and image dimensions, and transmit the image having a resolution according to the determined display resolution.

60. The system, as set forth in claim 48, wherein the processor is operable to determine a display resolution setting of a display screen, determine amount of display screen space available to display the image, determine dimensions of the image, determine a resolution for simultaneously displaying the entire image on the display screen in response to the display resolution setting, the amount of display screen space available, and the dimensions of the image, and display the image on the display screen in response to the determined resolution.

61. The system, as set forth in claim 48, wherein the processor is operable to receive a user specification of a location and boundaries of a region in the image, and verify the user-specified region location and boundaries conform to at least one region management model.

62. The system, as set forth in claim 61 wherein the processor is operable to determine whether the user-specified region boundaries overlap with another region.

63. The system, as set forth in claim 61, wherein the processor is operable to determine whether the user-specified region boundaries cross one another.

64. The system, as set forth in claim 61, wherein the processor is operable to determine whether the user-specified region boundaries fall within a visible area defined by a visible area definition.

65. The system, as set forth in claim 61, wherein the processor is operable to determine whether the user-specified region comply with a predetermined multiple z-order specification.